0043013
027776

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

FEB 26 1996

Mr. Steve M. Alexander
Perimeter Areas Section Manager
Nuclear Waste Program
State of Washington
Department of Ecology
1315 W. Fourth Avenue
Kennewick, Washington 99336-6018

Dear Mr. Alexander:

TRANSMITTAL OF COMMENT RESPONSES ON DESCRIPTION OF WORK AND SAMPLING AND ANALYSIS PLAN FOR PORE WATER SAMPLING AT GROUNDWATER-RIVER INTERFACE ADJACENT TO 100-D/DR, -K, AND -H REACTOR AREAS, BHI-00620, DRAFT A

Attached is the U.S. Department of Energy, Richland Operations Office (RL), response to comments from the State of Washington, Department of Ecology (Ecology), on the subject document. Comments on this document were received from Ecology in a letter to RL dated November 2, 1995, and incorporated as appropriate, in the revised document. The revised document, BHI-00620, Draft B, will be sent to Ecology under separate cover.

If you have any questions, please contact me at 373-9631.

Sincerely,

Arlene C. Tortoso

Arlene C. Tortoso, Project Manager
Groundwater Project

GWP:ACT

Attachment

cc w/attach:
L. E. Gadbois, EPA
W. W. Soper, Ecology

cc w/o attach:
R. L. Biggerstaff, BHI

RESPONSE TO COMMENTS FROM THE WASHINGTON STATE DEPARTMENT OF ECOLOGY ON THE "DESCRIPTION OF WORK AND SAMPLING AND ANALYSIS PLAN FOR PORE WATER SAMPLING AT GROUNDWATER-RIVER INTERFACE ADJACENT TO 100-D/DR, -K, AND -H REACTOR AREAS," BHI-00620, DRAFT A

GENERAL COMMENTS:

Comment 1: I would like to see both filtered and unfiltered samples taken for comparison. Documentation exists that filtering samples may skew data.

Response: Analytical results for metals will be different for filtered and unfiltered samples, particularly if the analysis measures total chromium in the sample. When the analysis is specific for hexavalent chromium, the results should be very similar. Of the fourteen pairs of filtered/unfiltered samples analyzed to date, this appears to be true.

Comment 2: There is no mention of the river bank probes and sampling in conjunction with the river substrate samples. This is a big concern, as we were relying on the river bank samples for correlation.

Response: Text will be added to the sampling and analysis plan to describe the sampling activity that uses temporary sampling tubes along the shoreline. These tubes are emplaced by driving a steel casing into the sediment at selected diver transect locations. Sampling points are installed at multiple depths in these driven casings. Defining the relationship between analytical results from drive point samples and river substrate pore water samples is a principal data quality objective for the shoreline program.

SPECIFIC COMMENTS:

Comment 3: Page 1, Section 2.0. Will salmon eggs be collected and analyzed?

Response: Collection and analysis of salmon eggs were not included in the plans for the FY 1996 field season. The presence of chromium-bearing pore water above ambient water quality criteria within spawning gravels (redds) at 100-D/DR, -K and -H reactor areas needs to be established before collection and analysis of salmon eggs (or other embryonic life stage such as alevin/fry), are considered.

The scientific collection permit required by the Washington Department of Fish and Wildlife, and the extensive planning required to identify and mark redds (and egg pockets) in the short time they are visible (i.e., middle to end of November) for later excavation/sampling, requires significant lead time prior to actual field sampling.

Comment 4: Page 5, Section 3.0. What is the purpose of sampling the surface water column and the shoreline water column?

Response: Sampling of the shoreline water column will only occur in the downstream of the 100-H outfall apron structure where the low current velocity may provide cover or a resting area for outmigrant salmon fry or juveniles. Because this shallow low current river reach, in the vicinity of chromium-bearing groundwater seeps, may exhibit water quality conditions potentially adverse to young salmon (i.e., presence of hexavalent chromium in surface water with low dissolved oxygen and/or water temperatures that may exceed young salmon tolerance), it was agreed to with the tribes to sample the shoreline water column.

Comment 5: Page 5, Control Samples. Is this necessary? We already have control samples.

Response: Control samples will be collected once at the Vernita Bar background sampling site to obtain pore water and surface water samples more representative of water quality conditions during the 1995-1996 field season.

Comment 6: Page 7, Section 4.1. Please provide more explanation on the second to last paragraph in this section. How often will the "preferred" volta-metric analysis method be used?

Response: The explanation of laboratory analysis in this paragraph has been expanded. The preferred Adsorptive Stripping Voltametry method will be used to analyze all pore water samples.

Comment 7: Page 7, Section 4.4. See Comment 3.

Response: Salmon egg samples will not be collected and analyzed. Please see response to Comment 3 for detailed explanation.

Comment 8: Page 8, Table 1. Spell out Chromium and Hexavalent Chromium. Delete chrome.

Response: The corrections will be made as requested.